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COMMERCIAL BANKING AND CAPITAL FORMATION. I

I. INTRODUCTION

The present war differs from all former wars most markedly in the intensity of the struggle on the economic side. In a word, the ravenous demands of a world-conflict require the diversion of the vast productive energy of society from the multifarious interests of peace to the one supreme necessity of warfare—the production of materials and supplies for the armies in the field. “Every war demand must be given prior claim to every peace demand.” This involves not alone an enormous dissipation of natural resources during the war; it means in the end a tremendous reduction of the capital equipment, and hence of the wealth-producing power, of society. It will be during the reconstruction period, therefore, that the incalculable costs of modern war will be revealed in clearest perspective.

The ways in which the world’s supply of capital goods is being reduced by the war may be briefly indicated. First, there are the “unseen losses” arising from the elimination of the normal increase in capital equipment, amounting in value to several billion dollars annually in each of the great industrial nations. At the conclusion of peace some of the new construction of capital that has been undertaken during the war as an aid in the conflict will of course be adapted to productive needs after the war, but most of it unfortunately will be “nonessential” for long-run peace requirements. Secondly, the war requires the discontinuance of operations in many lines of industry with a consequent rapid deterioration of the idle plant and equipment. Thirdly, even where production is not wholly stopped in the less essential lines the plant and equipment nevertheless rapidly deteriorate because a dearth of profits together with the enforcement of priority orders for materials does not permit the making of ordinary repairs and improvements. Fourthly, in many instances where plants have been rehabilitated

and turned to war production the terrific strain to which they are being subjected will fit them at the close of the war for little except the industrial scrap heap; there will be many an industrial plant crumbling to pieces without warning—like the wonderful one-horse shay. And even where they have not been prematurely worn out, the task of rehabilitation for essential peace production will in many cases be tantamount to new capital formation. Prone as we are to think merely in terms of conditions as they exist in the United States at the present, the foregoing may perhaps appear like an overstatement. As applied, however, to conditions as they already exist in France, in England, and in Germany, and to conditions that will obtain in the United States if the war continues for several years, I believe it portrays with substantial accuracy the true situation.

Since adequate wealth production will constitute in the future, as it has always constituted a fundamental prerequisite to social happiness, the problems of reconstruction will impose upon economists greater responsibilities perhaps than upon any other group. The economist must play an important rôle in shaping the policies of industrial and social reconstruction; for the realization of the industrial and social hopes of mankind in the coming era will depend largely upon the effectiveness with which society utilizes and applies, in the period of reconstruction, existing knowledge of social and economic processes.

The task of capital replacement will be particularly acute if, as is not unlikely, society becomes organized on both politically and industrially democratic lines. The assumption is very general that there are enough of the good things of earth for everybody, granted an equitable distribution of wealth, and that so far as the future is concerned each generation will, if society is properly organized, find no difficulty in supplying its wants. A "national minimum" of the necessities and conveniences of life for all classes of people is one of the indispensable conditions laid down by the English Labor party. One of the greatest problems that will arise at the conclusion of peace will be whether such a "national minimum" can be attained and at the same time the supply of lost capital be replaced and extended; indeed, whether it can be attained without a still

further depletion of capital resources, leading to "progressive degradation."¹

In view of these insistent demands for higher standards of consumption and in view of the unprecedented destruction of the world's supply of productive capital, one need scarcely offer an apology for directing attention at this time to the importance of the problem of capital formation. Some explanation may perhaps be necessary, however, as to the need of any new study of the processes by which capital is created. Do we not have an adequate theory of capital formation? Is there anything of importance on the subject that is not already generally accepted doctrine? It would be futile to attempt to answer these queries at this place, for they can be answered convincingly only in the light of an extended analysis of the problem. It may merely be suggested here that the formation of capital has been generally regarded as a relatively simple phenomenon—that to insure an adequate provision for the future all that is necessary is for the individual members of society to exercise the good old homely virtue of thriftiness. The dominance in economic literature of the theory of value and distribution has tended largely to divert the attention of economists from the processes by which individual savings of consumptive goods are transmuted into capital equipment to a justification of the taking of interest by the owners of capital.

There has long been needed a broader analysis of the problem of capital formation than is afforded by economic theory—par-

¹ Even such forward-looking economists as Hobson have seen fit to warn the English proletariat of the dangers that lie ahead if an attempt be made to obtain a high standard of consumption at the close of the war—nay, even if it merely be attempted to maintain pre-war standards. "Even had the pre-war income been equally distributed throughout the nation, there would not have been enough to secure for the average family the full requirements of a civilized life. . . . A mere return to pre-war productivity would seem to leave the workers worse off than before the war, and definitely worse off than the bulk of them have been during the most prosperous period of the war itself. . . . If, as is possible, the difficulty of making the pent-up world-demand for goods rapidly effective causes a fall in prices, the attempt to reduce wages from this high war-level will arouse struggles of unprecedented violence, with stoppages of industry that will seriously diminish the national productivity. No temporary victories in such struggles can really serve to win for labor what it wants—more wealth, more leisure, more security, more opportunities of life." In Hobson, *Democracy After the War* (London, 1917), pp. 173-74.

ticularly that of the neo-classical period. What is needed is a study of the processes by which a percentage of the productive energy of society is diverted from the creation of consumptive goods to the creation of capital goods. It should be a study, moreover, that runs in terms of the institutions through which and by which capital formation is effected in a complex industrial world. It should be a study, finally, that is not averse to facing the possibility of utilizing social agencies in the control of both the amount and the direction of capital accumulation.¹

II. CONVENTIONAL THEORIES OF COMMERCIAL BANKING

Although in opposition to current theory, the statement is here ventured that the most important of the institutions related to the process of capital formation is the commercial bank. The failure of writers on banking to appreciate the relation of commercial banking to capital accumulation may be attributed, I think, to the restricted point of view from which the subject has been approached.

Speaking generally, economists have undertaken the study of commercial banking as a sort of by-product of monetary investigation. A very intensive literature on money had been developed long before the modern "commercial" bank had assumed a rôle of importance in the organization of industrial society. The functions of money as a medium of exchange, as a common denominator of value, as a standard of deferred payments, as a store of value—Gresham's law, bimetallism, the relation of money to prices, etc.—these have perennially been the rallying-points of monetary discussion and controversy. With the development of modern banks of "discount, deposit, and issue," however, new forms of currency have flooded the markets of the world, giving rise to new problems and necessitating extensive overhauling and reformulation of monetary doctrine. Hence to the original controversies over the functions of money and the quantity theory in its simple form there have been added in the nineteenth century

¹ To this end a series of articles is to be printed in this *Journal* which will attempt to work out along these lines a comprehensive analysis of the processes of capital formation under the conditions imposed by a highly specialized industrial system. Several writers will contribute to the series, which will run through many issues of the *Journal*.

extensive discussions of the functions of banking and credit in their bearing on general monetary theory.

The relation of bank notes to the price level¹ was long the central controversy, but with the growing importance of deposit currency in the modern commercial world latter-day discussion has in increasing measure been shifted to the functions of credit. Nearly all the noteworthy banking studies of the present generation of economists have centered about credit currency and its relation to the quantity theory of money. And the standard treatises, where not merely descriptive, quite generally approach the study of banking from the standpoint of money and stress the functions performed by bank currency—notes and checks—as media of exchange, together with the relation of such instruments to the level of prices. The standard method in the texts on general economics of treating money and banking together under the division "Exchange" affords further evidence that banking has been regarded mainly as an agency which provides convenient and inexpensive media for the exchanging of goods already produced²—an agency, however, which gives rise to some peculiar problems of regulation and which has important by-effects in connection with the value of money.³

This avenue of approach to the study of banking appears to offer also the explanation for the almost universal practice in

¹ Particularly in connection with the discussion of the banking v. the currency principle in England during the first half of the nineteenth century.

² This emphasis upon exchange media in a society where division of labor has been extensively developed has resulted, moreover, in largely divorcing both money and banking from any relation to the productive process. The standard method is to study production first, and then to discuss money and banking in connection with the exchanging of the goods that have been produced. This is, of course, to ignore the vital part that money plays in connection with every phase of the productive process itself.

³ Since the services that are performed by bank notes and checks are self-evident to students who have mastered the functions of money, the problems that arise from a study of banking media generally pertain to the maintenance of their parity with the standard money, together with the effect of such an increase in currency on the value of money. The central position that general-value theory has held in the realm of economics has thus resulted in rendering monetary and banking discussion largely a matter of valuation analysis. The analysis has therefore run in mechanical terms, oblivious to the very existence of problems connected with industrial development.

general treatises on money and banking of confining the discussion very nearly exclusively to "commercial" banking—the type that gives rise to notes and checks—making at best but the merest mention of the many other kinds of banking and financial institutions that function in the world of modern industry. In fact, this point of view has led to an attempt in some quarters to exclude from the definition of banking all operations that do not give rise to notes or deposits payable on demand. Bagehot and Dunbar, probably the two greatest authorities on banking writing in English in the past generation—certainly the two writers who have most profoundly influenced the thought of this generation of students—both take this stand. Bagehot remarks that the Rothschilds are great capitalists, but not bankers,¹ while Dunbar² says: "In order to be a bank at the present day, an establishment must carry on the purchase of rights to demand money in the future, or securities, and it must also use in some form or other its own engagements for the payment of money *upon demand*."³

Such a narrowing of the scope of banking has, I believe, resulted in giving us an entirely inadequate conception of the monetary and financial structure of our modern pecuniary order. The many kinds of financial institutions in present-day industrial society are bound up in an intricate financial system, and functioning together they largely organize and direct the whole process of wealth production and distribution. To consider in the main only one type of financial institution, or, if treating various types, to discuss them in isolation without relation to the complex pecuniary structure of which each forms a part, is to attain at best to a very partial understanding of the economic world in its financial aspects.

But the present paper is concerned only incidentally with this broader field of financial organization. The problem now before us is the relation of "commercial" banking to capital formation. It is my belief that the prevalent emphasis in the analysis of banking

¹ Bagehot, *Lombard Street*, p. 212.

² Dunbar, *Chapters in the Theory and History of Banking*, p. 18.

³ This conception of banking also finds support in the definition of a bank given in the internal-revenue act of the United States in 1866. 14 Statutes at Large, p. 115. Quoted in Dunbar, *op. cit.*, p. 18 (italics mine).

upon the creation of media of exchange and their relation to the price system has resulted not only in an incomplete understanding of the larger financial organization of society but also in an entirely inadequate appreciation of the functions of "commercial" banks themselves. Lest I be misunderstood at this point let me state that I am far from denying the importance of banking-exchange media in their relation to the whole price controversy. I am merely voicing the impression that the fascination which this problem has held for succeeding generations of students has closed our eyes to some of the most important functions of commercial banks and to the vital and positive part they play in the evolution of modern capitalistic industry.

In the foregoing preliminary statement it should be noted that such qualifying terms as "mainly," "largely," "in general," etc., have been employed when speaking of the nature of our literature and discussions on money and banking. Such qualifications are necessary because numerous writers have, in fact, endeavored to give a somewhat broader statement of the rôle played by commercial banking in industry at large. As the present study requires a close analysis of the functions of commercial banks, it is necessary that it be prefaced by a brief survey of current doctrine. The list of excerpts which follows is by no means an exhaustive one; it is believed, however, that it is typical and accurately represents the general run of economic analysis in the field of commercial banking.

Gilbart¹ lists the following banking functions: providing safety-deposit vaults; paying interest on deposits; making loans; exchanging funds between places; changing currency denominations; collecting notes and drafts, etc.; he also adds that in connection with the receipt of deposits and the making of loans bankers gather together money in small sums and transfer it in larger amounts to borrowers engaged in "trade and commerce."

Dunbar² gives us the time-honored functions of discount, deposit, and issue. Dunbar's best conception of the function of

¹ Gilbart, *The History, Principles, and Practice of Banking* (Michie's revision), pp. 213-22.

² Dunbar, *op. cit.*, p. 9.

a commercial bank, however, is found in another connection, where he says:

The bankers created no new wealth by their lending and deposit holding, but they directed the existing capital to the enterprises and industries most in need of support, and they quickened the succession of commercial and industrial operations. A given amount of capital was thus made more effective, so that the result of the introduction of banking in any community was the equivalent of a considerable increase in capital, although not implying any real increase in the first instance.¹

Horace White² states that a bank is "a manufactory of credit and a machine for facilitating exchanges"; that discounting is "the swapping of well-known credit for less-known credit"; that the banker "enables the most deserving persons in the community to get capital," and thus "performs a service to society by economizing tools and materials." It puts capital goods into the most competent hands.

Holdsworth³ writes that commercial banks "receive deposits of cash, checks, and drafts, and make loans to the business public by discounting or purchasing commercial paper. To these functions may be added a third, that of providing a medium of exchange through the issue of circulating notes." Various incidental services are also listed, and he adds that a bank is a manufactory of credit. "Business credit cannot be conveniently used for current business transactions but bank credit in the form of checks and drafts is widely acceptable."

H. Parker Willis in a recent volume says that the single dominant idea or function of a bank is that of

guaranteeing the limited or individual credit of each individual by accepting it and substituting in lieu thereof the bank's own credit. When an individual takes his own secured note, for example, to a bank and discounts it, and then draws checks against his account at the bank, he has simply substituted the bank's credit of more general acceptability for his own credit of limited acceptability. The bank thus appears as an institution for the study of credit and for guaranteeing its judgment on that subject.⁴

¹ *Ibid.*, p. 5.

² White, *Money and Banking* (3d ed.), p. 193.

³ Holdsworth, *Money and Banking*, pp. 148-49.

⁴ Willis, *American Banking* (1916), pp. 3-4.

Scott describes the functions of commercial banking as follows:

Customers of a commercial bank sell to it their surplus cash and credit instruments representing payments due them from other persons, and make loans from it secured by their personal notes due in the future. For the amounts due them as a result of these transactions they are credited on the books of the bank in a form known as deposits. Making loans and discounts is a function correlative with that of conducting deposit accounts. It may be described as the process of advancing funds on the security of personal notes and bills of exchange and on collateral.¹

With reference to the aspect of industrial society with which the commercial bank is associated Scott writes:

Commercial banks are essential parts of the machinery by which goods and services are exchanged in the everyday conduct of business. Investment banks are essential parts of the machinery by which the savings of the people are collected and applied to the production and transportation of goods and to the service of such public bodies as the federal, state, county, township, and municipal governments. . . . It is rarely possible for a business man (engaged in trade and commerce) to make the maturities of the debts due him and the debts due by him to others exactly correspond, and he therefore finds himself under the necessity of transforming into means of payment the obligations of other people due in the future. This service the commercial bank performs for him, and in this consists its unique function in the national economy. It is the business of the investment banking institutions of a country to see that the work of directing the savings of the country into its various enterprises is economically and efficiently done.²

J. Laurence Laughlin writes in similar vein:

The business of the bank consists of dealing in the commercial paper which grows out of current transactions. When a man desires funds for a long period, he should get them, not from the bank, but from those who have spare capital to invest for some considerable period of time. The bulk of banking business consists of instruments evidencing claims upon individuals, stated in terms of money, and resulting from operations requiring a comparatively short period for their consummation.³

Among the treatises on general economics a number of statements of banking functions may be noted. Johnson says:

¹ Scott, *Money and Banking* (revised ed.), pp. 108-9.

² In *Proceedings of the Second Annual Convention of the Investment Bankers Association of America* (1913), pp. 76 ff.

³ J. Laurence Laughlin in *Banking Reform*, p. 76.

The principal functions of the bank are the collection of funds of loanable capital that are available for short periods only, and the employment of such funds in call and short-term loans.¹

Ely states:

Having converted his personal credit into a bank deposit, the business man can now use it as a means of payment. . . . Ordinary commercial banking consists, in large part, of this purchase of personal credit and sale of banking credit.²

Fisher's description is as follows:

Through banking he who possesses wealth difficult to exchange can create a circulating medium based upon that wealth. . . . To put it crudely, deposit banking is a device for coining into dollars land, stores, and other wealth not otherwise generally exchangeable. Something of equivalent value is behind each loan, but not necessarily money. The note (or deposit) holder's promise (his promissory note) is secured by his assets; and the bank's promise (the bank note) is secured by the bank's assets. The noteholder has "swapped" less-known credit for better-known credit.³

Fetter expresses his opinion in the following words:

The essential feature of a bank is the lending of its credit. . . . The process of lending credit is called "deposit and discount." . . . The bank is a tool performing services similar to those of money. . . . The gathering of loanable funds by the banks, making them available at once, reduces hoarding, makes money move more rapidly, and creates a central market between borrowers and lenders for the sale of credit. While not creating more physical wealth directly, it adds to the efficiency of wealth; it oils the bearings of the industrial machine.⁴

Davenport states it thus:

It follows from the foregoing analysis that, in the main, banks do not lend their deposits, but rather, by their own extensions of credit, create the deposits; that these deposits are funds which the deposit-creditors of the bank can lend if they will, and that many men into whose hands these deposits fall through transfer are certain to use them as funds to be lent. . . . Banks are, in truth, mostly intermediaries between debtors and creditors—but not in the sense of borrowing funds from one class of customers in order to lend them to another class, but rather in the sense of creating for their borrowing customers funds which may be used by these borrowers as present purchasing power.⁵

¹ A. S. Johnson, *Introduction to Economics*, p. 286.

² Ely, *Outlines of Economics* (revised and enlarged ed.), p. 247.

³ Fisher, *Elementary Principles of Economics*, pp. 169, 171, 173.

⁴ Fetter, *Principles of Economics*, pp. 462, 464, 465.

⁵ Davenport, *The Economics of Enterprise*, p. 263.

Taussig's view is as follows:

Banks perform two functions, equally important, yet different. They act as agencies for the collection of savings and for investment; they create a part of the medium of exchange. . . . A savings bank has to do with investment only. . . . A strictly commercial bank is not concerned with the sort of investment to which the term is commonly limited, that which looks to the creation of permanent plant. But such a bank supplies, in English-speaking communities especially, a highly important part of the circulating medium.¹

The prime function of the commercial bank in Taussig's view may be gleaned from the title which he gives to his chapter on banking, "Banking and the Medium of Exchange." It should be stated, however, that Taussig recognizes a doubtful "tendency to combine general financing and investment operations with commercial banking"—a tendency which he notes is increasing and which he thinks likely to become in the future more rather than less common. He adds that it must be watched with "uneasy interest."² Taussig also recognizes that commercial banks do more than act as financial intermediaries; they create "money means," "command of capital," and this "without cost or sacrifice on the part of the saver";³ they thereby "promote the continuity of industry."

Analysis of these various statements reveals the business of commercial banking in four different aspects—perhaps one might better say, commercial banking is discussed from four different points of view: first, we find a description of the nature of banking operations; secondly, we find statements referring to the nature of bank credit and the use of credit instruments as media of exchange; thirdly, we find that commercial banking is related to the transfer of capital from those who do not wish to use it to those who do; fourthly, we find that commercial banking is related to commercial rather than to industrial or investment business. In the present paper the first three of these points of view will be considered, discussion of the fourth being reserved for a subsequent article.

The first view of the subject need concern us here but briefly. It is merely necessary to note that a large part of the discussion

¹ Taussig, *Principles of Economics*, I, 331.

² *Ibid.*, pp. 350-51.

³ *Ibid.*, pp. 357-58.

of banking functions in our standard treatises on banking is not discussion of *functions* in the sense of showing how banking is of service in connection with wealth production—of revealing the way in which it is related to the organization of industrial society. On the contrary, it is mere description of routine banking operations, and the use of the term *function* is a misnomer. Providing safety-deposit vaults, accepting cash deposits, making loans, collecting checks, etc., are not *functions* of banks any more than receiving freight and issuing bills of lading are the economic functions of railways. True, these various operations have economic significance; but one may search most texts on banking in vain for more than the barest mention of the relation of banking to economic organization.

Similarly Dunbar's "functions" of discount, deposit, and issue are not functions at all; and his entire discussion of them gives no inkling of the economic significance of banking operations. The whole analysis runs in terms of legal relations between bank and customer, of an exchange of rights—rights (on the part of the customer) to demand money now in exchange for rights (on the part of the bank) to demand money in the future. It is only in the introduction to his volume where Dunbar speaks of the relation of banking to wealth creation (see quotation, p. 491) that he is discussing banking functions. And it is interesting to observe that text writers and editors of books of readings on banking generally reproduce for the student the former only. Discount, deposit, and issue *operations* are put before succeeding generations of students as the significant functions of banking in the economy of nations.¹

In connection with the second view of the subject—the analysis of bank credit and the use of credit instruments as media of exchange—we find, however, abundance of material that is related to the larger organization of economic society. Here we find discussions of the maladjustments in income occasioned by a changing price level, of the problems of social well-being involved in the periodicity of business under a credit régime, etc. One cannot

¹ See Phillips' *Readings in Money and Banking* and Moulton's *Principles of Money and Banking* and note the frequency in the foregoing quotations with which the terms discount, deposit, and issue are used.

fairly criticize the literature on these topics as being mere description or as analysis of important problems in isolation unrelated to the industrial structure as a whole. The present criticism, as already indicated, is rather that the monetary angle of approach to the subject of banking and the dominance of the value analysis have unduly narrowed the scope of the discussion and prevented a full appreciation of the functions of banking in industrial society.

In this connection the most significant statement of the general function of commercial banking in industrial society is found, with slight variations in mode of expression, in White, Holdsworth, Willis, Ely, Fisher, and Johnson (second quotation). White calls it the "swapping of well-known credit for less-known credit." Willis calls it "guaranteeing" the limited credit of individuals and substituting bank credit for personal credit. Ely calls it the "purchase of personal credit and sale of banking credit." This same phenomenon is also sometimes referred to as "generalizing the credit of individuals" or "making it universal." Criticism of this statement of the outstanding feature of commercial banking must be postponed for the moment, for it may be more intelligently discussed after the analysis contained in Section III below.

The third view of commercial banking—its relation to the transfer of capital—finds expression in Gilbart, Dunbar,¹ White, Fetter,² and Johnson, who speak of the collection of funds by the banks and the transfer of these funds to borrowers, thus shifting capital to the most efficient hands. From the statements as they stand, however, there is nothing to indicate that the commercial bank differs at all in this connection from the savings bank except in so far as the duration of loans is concerned. The very brief statements given in the excerpts, moreover, constitute all that the respective authors have to offer on this aspect of banking. Finally, it should be emphasized that these statements do not intimate any connection between commercial banks and the formation of capital goods; the view is that they merely transfer existing capital goods from one party to another.

¹ For a full statement of Dunbar's view one should read pp. 8 and 9 of his *Theory and History of Banking*.

² Fetter also adds that a bank lends its credit.

III. THE OUTSTANDING FEATURE OF COMMERCIAL BANKING

It becomes necessary at this point to present as a background for subsequent discussion my conception of the essential characteristic or outstanding feature of commercial banking. The term "outstanding" is employed because it is not the intention to discuss here all of the various services performed by commercial banks; the term "feature" is employed because we are to discuss commercial banking, not in terms of its ultimate relation to the organization and development of industrial society as a whole, but only in its more immediate aspects—simply as a routine business organization. This outstanding or unique characteristic of commercial banking is its ability to take a given amount of cash resources and make loans to many times the amount of such cash resources.

The commercial banking system as a whole gathers together, in effect, a large portion of the monetary resources of a nation and organizes them in such a way as to multiply many times the volume of loanable funds. The cash assets thus employed are assembled by two principal avenues: by original capital contributions, in the form of cash, and by customers' deposits of specie and lawful paper money.

It should be noted here that our financial fabric as a whole is so constructed and operated as to concentrate a very large and an increasing proportion of our "lawful money" in the vaults of commercial banks rather than in those of other financial agencies. The bond houses, handling several billions of investments annually, require relatively little legal money; their business is largely that of intermediary, and their transactions are nearly always effected, on the part of both their customers and themselves, by checks on commercial banks. Similarly the insurance company requires specie or legal tender in only negligible quantities. What "funds on hand" it is necessary to hold may be kept in the form of a checking account with a commercial bank. The savings bank likewise holds at best very small cash reserves—to be exact, nine-tenths of 1 per cent on an average in 1909,—merely till money.¹ Our savings banks also look to the commercial institutions for accommodation in case of need.

¹ *Statistics for the United States, 1867-1909* (National Monetary Commission), p. 33.

Moreover, the convenience of the check as a medium of exchange for payments both large and small has served in increasing measure to lessen the proportionate volume of "actual money" in general circulation. Of the total money in the United States in 1892, 33.48 per cent was in the vaults of banks,¹ and in 1916, 42.34 per cent was thus held.²

The process by which the commercial banking system creates deposit currency which supplements the work of money in effecting exchanges of goods has often been described and need not be repeated here.³ Deposits are largely created in the first instance through the loaning process, the borrower taking the credit granted by his bank as a deposit account and checking it out to his own creditors, who deposit these checks in the same or in some other bank, with the result that deposit accounts in the system as a whole *tend* to be increased *pari passu* with the increase of loans.⁴ The process of depositing checks and writing new checks against the account thus created, which new checks are in turn re-deposited, together with the mechanism that has been developed for clearing or canceling balances, has made it possible for the commercial banks to maintain deposits payable on demand many times the amount of the cash reserve.

Just how many times the amount of the cash reserve the deposit liabilities have, in fact, become is not usually appreciated. Owing to the re-depositing and double counting of reserves and to the diverse requirements of state laws in the matter of reserves the percentage of reserves required by law does not give anything like an accurate picture of the true reserve situation for commercial banks as a whole. All banks reporting to the Comptroller of the Currency, June 30, 1916, show a total "cash on hand" of \$1,486,-

¹ The Comptroller's figures in this connection include savings banks, but, as already seen, the amounts held by them are almost negligible.

² *Annual Report of the Secretary of the Treasury* (1916), p. 546.

³ See, for instance, Davenport, *The Economics of Enterprise*; Fisher, *The Purchasing Power of Money*; and Moulton, "The Surplus in Commercial Banking," *Journal of Political Economy*, XXV (1917), 1007-11.

⁴ There is much confusion of thought in this connection, and if it is to be avoided one must think in terms of the banking *system* and forget the operations of any single individual bank. A banker will say that his deposits are loaned to borrowers. But the deposits which he receives, and which he thinks he loans out, are largely claims against other banks rather than specie—claims arising from the extension of loans somewhere in the banking system.

118,321.95 and total deposits of \$22,773,074.98,¹ giving a ratio of reserves to deposits of 6 per cent. The total cash here given, however, does not include the 426 millions in Federal Reserve banks. If we add this sum without taking into account the deposit liabilities of Federal Reserve banks, the ratio becomes 8.4 per cent. But since this particular date was one of large reserves in member banks, and one in which the Federal Reserve banks possessed enormous unused lending power, the ratio of 6 per cent doubtless more nearly represents the true situation.² In fact, I think it may safely be said that our banking structure has developed to a point where the reserve as a whole need be only 6 per cent of the deposits as a whole.³

It should be noted here that the foregoing figures, which show a ratio of only 6 per cent, include the accounts of 1,864 savings institutions with deposits aggregating a little over \$5,000,000,000. One might therefore be inclined to argue that the ratio given is too low. But the very general practice of savings banks today is to ignore the provision requiring notice of withdrawal and to pay on demand. This is true not only in times of easy money, but in times of strain the savings bank feels that it must pay on demand if it is to command the confidence of its depositors. And the managements of many savings banks are now looking toward investments in commercial paper as a means of providing a secondary reserve of liquid assets. But, as already indicated, the chief recourse of the savings bank in need of reserve money is to draw upon commercial banks, either directly or indirectly, through the sale of securities. The banking system as a whole, including the savings institutions, is one in which practically all deposits are, in fact, demand deposits. In any event we may fairly conclude that deposits are at least fifteen times the legal reserve.

Thus far we have been speaking of the ratio of reserves to deposits and the familiar problem of an augmented volume of currency in the form of bank checks. But, as already suggested,

¹ *Annual Report of the Secretary of the Treasury* (1916), p. 546.

² If allowance be made for the counting of national bank notes as cash reserve in state banks and trust companies, the ratio of deposits to specie and "lawful paper" appears still less.

³ By way of comparison with the situation before the establishment of the Federal Reserve System, in 1906, the actual cash reserves for all commercial banks was 10.7 per cent, and including the savings institution it was but 8 per cent of the total deposits. *Statistics for the United States, 1867-1909* (National Monetary Commission), p. 33.

this point of view, with its emphasis upon the volume of the circulating medium and its centering of attention upon "deposits," practically always leads off into a discussion of the relation of money and prices. The relation of commercial banking to industrial society may best be apprehended by shifting the point of view from deposits to loans—from the ordinary economic consideration of the creation of circulating media to the typical business problem of borrowed "capital." From this point of view the significant items to study and compare in commercial bank statements are reserves and loans.

Of course "loans" on the assets side and deposits on the liabilities side are very closely related; in considerable measure they are but opposite views of the same thing, deposits having been created through the loan process. The deposit account, however, is a mixed account: it arises partly (in the system as a whole) through loaning, though this is usually an indirect process by virtue of the fact that a loan to A shortly appears as a deposit in the name of B; and partly as a result of the bringing of actual specie to the bank by customers, in which case the deposit is matched by cash. The ratio of deposits to cash therefore does not show precisely the extent to which commercial banks expand "liquid capital." Moreover, since the popular conception (including that of most bankers and some economists) of the deposit item is that it represents funds brought to the bank, a comparison of reserves with deposits does not serve to reveal the true service of the commercial bank—it does not sharply differentiate its work from that of a savings institution. A comparison of loans with cash reserves more clearly reveals the true situation.

Our commercial banking system, we have said, gathers together great quantities of cash resources and makes loans for business uses. The loans made by a commercial bank, whether taken in the form of specie, bank notes, or checking accounts, are equally available purchasing power in the hands of business men. In the business view, indeed, these funds constitute capital¹—liquid

¹ When I use the word "capital" in this connection, I am not confusing "funds" with "real capital" in the form of goods. I am using the term in the business sense here merely as a means of directing attention to funds that are used by business men in productive activities; to divert attention from money as a medium for exchanging consumers' goods.

capital—available for the manifold activities of the world of affairs. By comparing the cash resources assembled in our banks with the total loans made by them we may gain a pretty clear appreciation of the more immediate results of commercial banking operations.

A savings bank gathers together from depositors and stock-holders, say, \$100,000 and loans for business uses about \$99,000, keeping the remainder as a reserve. But commercial banks gather together \$100,000 and loan, not \$99,000 merely, but something like \$1,600,000. The difference here is due to the fact that in borrowing from a commercial bank the borrower takes a deposit account against which checks may be drawn—checks which will

TABLE I
(In Millions of Dollars)

Year	Loans	Investments	Total	Cash on Hand	Percentage Cash to Loans and Investments
1866.....	550.4	467.6	1,018.0	231.9	22.8
1876.....	1,726.8	818.6	2,545.4	217.3	8.5
1886.....	2,456.8	1,044.9	3,501.5	304.3	8.7
1896.....	4,251.2	1,674.6	5,925.8	531.9	8.9
1906.....	9,893.8	4,073.5	13,967.3	1,016.5	7.3
1913.....	14,626.9	5,407.2	20,034.1	1,560.7	7.7
1916.....	17,849.8	6,796.6	24,646.4	1,486.1	6.0

seldom be presented for payment in cash.¹ On the other hand, in borrowing from a savings bank a liability in the form of a deposit account is not created; the savings bank loses possession at once of cash resources.² The extent to which the loaning power is in fact expanded through the peculiar mechanism of the commercial banking system may be seen from Table I, which is representative of all banks reporting to the Comptroller.³ This table requires both interpretation and justification. The year 1906, at the crest of a great era of expansion, was the high-water mark under the old banking system; it shows loans and investments to be some fourteen times the cash resources. The figures of cash on hand in 1916 do

¹ The reader must be referred for a fuller statement of this phenomenon to my article on "The Surplus in Commercial Banking," *op. cit.*

² Data taken from *Annual Report of the Secretary of the Treasury* (1916), pp. 543-44.

³ This usually does not mean a reduction of specie, but rather a reduction of funds in other banks.

not include cash held by Federal Reserve banks, and as was the case in our analysis of deposits, the ratio is therefore not precise; but since the loaning power under the Federal Reserve System had not been fully utilized, we may conclude, as before, that a 6 per cent ratio of cash to loans and investments is substantially accurate—and substantial accuracy is all that is required for the purposes of the present analysis.¹

One may question the inclusion of investments along with loans in the reckoning before us. As a rule writers on commercial banking have tended to discuss loans to the exclusion of investments. The reason for this appears to be found in the prevailing emphasis upon deposit currency; it is apparently assumed that investments do not result in deposits, and that they present in general quite different problems.² Let us see. From the point of view of the business world an investment in bonds (bonds make up the great mass of commercial bank investments) is in effect a loan of funds. It differs from the ordinary bank loan only in the provisions governing its maturity. The typical loan may be compulsorily retired within a short time because of the expiration of the contract; while the bond usually does not mature for many years, and in the interim cannot be converted into cash save as someone else, some other bank or individual, is willing to buy it.³ But this difference in the length of the contract entered into by bank and customer does not change the nature of the agreement; in either case the bank is clearly making a loan.

It appears from Table I, therefore, that our banking system has in effect gathered together \$1,486,000,000 worth of cash resources and has loaned out \$24,646,400,000, of which \$17,849,-800,000 is in the form of short-time loans and \$6,796,600,000 in long-time investments. The "liquid capital," the "loan fund," has been multiplied by sixteen. Business men are able to borrow "capital," using the term in the business sense, to the extent

¹ Savings institutions are again included, and for the same reason as in the foregoing analysis, p. 499. It should be added that the percentage would differ but slightly were the figures for savings banks omitted.

² Whether an investment in bonds results in an expansion of deposits will be discussed in a succeeding paper.

³ Whether this is a vital difference in practice will also be discussed in a succeeding paper.

of over twenty-four billions instead of less than a billion and a half. With savings banks, bond houses, and insurance companies alone in the field the sums available for borrowers at any time would (if we allow for the necessary reserves) probably not greatly exceed a billion dollars.

IV. COMMERCIAL BANKS AS "GUARANTORS" OF INDIVIDUAL CREDIT

The relation of this expansion of loanable funds to the formation of capital goods must be reserved for subsequent discussion, for we are here concerned merely with the external features of the banking machinery. We have now to consider, however, in the light of the foregoing analysis, the second view of the function of commercial banking outlined above,¹ namely, that commercial banks buy individual credit and sell banking credit; that they trade well-known for less-known credit, thus guaranteeing individual credit and making it widely acceptable as a medium of exchange. This definition of the work of a bank is doubtless true in a restricted sense, but I believe that it is quite inadequate as an explanation of the function of commercial banking. Let us see if there is a mere "swapping of credit."

X, a retailer, buys \$1,000 worth of goods from Y, a wholesaler, on three months' time. He may give a promissory note, he may merely carry it on his books as "bills payable," or he may accept a draft drawn on him by Y. Now it will be noted that in all these cases Y has to wait three months for his pay. The credit obligation is to pay in the *future*, not to pay *now*. Suppose now that X in order to "take advantage of the cash discount" borrows \$1,000 on his promissory note from a bank and sends a check to Y. In the view of Y this check is cash; hence the discount. And, in fact, Y has been paid quite as much as though he had been sent gold. X still owes \$1,000, but to the bank instead of to Y; there has been a swapping of creditors though not a swapping of credit. The difference is that Y has the cash (in effect) in this second case, whereas in the first case he had to wait three months for his pay. There has been substituted for a *time* credit instrument a demand instrument in the form of a check. By the substitution of the

¹ See pp. 495-96, *supra*.

bank's check for the personal note, draft, or book account Y has gained something other than the possession of a "better-known credit instrument"; he has acquired something equivalent to cash rather than a credit instrument at all.

It grates a bit perhaps to hear it stated that a check is, in effect, not a credit instrument at all. But if the very essence of credit is its "futurity," the "postponed payment," the "time element," and the very essence of the deposit account against which the check is drawn is its *demand* nature, the absence of a time element, it cannot well be that a check is a credit instrument as credit is generally understood. A check is a credit instrument in the sense that it must be honored by the bank before it is tantamount to cash, just as credit is involved in a business operation in which one receives goods a second or so before he passes over the money to the seller. There is a moment's time here when one is waiting to be paid; but no one really regards such a transaction as a genuine credit operation. Now a certified check, or a cashier's check, or even an uncertified check in the vast majority of cases, particularly where the deposit account arises from a loan, is in practice precisely as good as cash. It is only in the rare event of a bank failure that these instruments prove not as good as cash. But for that matter a *cash deposit* is not as good as cash either when the bank fails.¹

It occurs to me that the difficulty in the customary analysis of this subject lies in the conception of the nature of bank credit or in a confusion between credit and credit instruments. An individual's credit is measured by his ability to expand his business through the use of other people's funds. A bank's credit consists in its ability to expand the volume of its business on a given basis of reserve—to make loans and receive interest in excess of its own original resources. As we have seen, our banking system as a whole has proved itself able, by virtue of its unique organization, to float *demand* claims equal to some fifteen times the amount of the cash reserves. We say that the banks "lend their credit." Would it not be more accurate to say that they lend great quantities of

¹The bank note, arising in much the same way as the loan form of deposit account, may, however, be good even if the individual bank which issues it should fail.

funds on the basis of their credit, or because they have excellent credit, in consequence of the demonstrated soundness of the check system? If the system were not well organized, the banks would not be able to lend to the extent to which, in fact, they do; but this is quite a different thing from saying that the check and bank note, as they exist in practice, are credit instruments. Is it not nearer the truth to say, "Because the banks have credit they are able to create instruments that are, in practice, the equivalent of cash"?

But it may be argued that the check and note are credit instruments in form—they are promises, direct or implied, to pay cash, and hence they differ from cash. Granted, but the real point is that in the vast majority of instances this distinction has no practical importance when we consider our banking and credit structure as a whole. This is not to say that a cash reserve is not necessary; it is merely to say that since the reserve system is a proved success these so-called credit instruments usually pass as cash. This point is of course acknowledged, at least implicitly, by all writers on the relation of deposit currency to the price level; and the interesting phenomenon is that they should at the same time appear to regard checks and bank notes as credit instruments in the same sense that time drafts and promissory notes are credit instruments. The bank note and the check, it seems to me, are no more to be regarded as credit instruments than are due bills, sight drafts, or a verbal request "to pay up or shut up."

Checks are credit instruments only in the sense that greenbacks and token coins are credit currency. These instruments are not backed by a gold reserve of 100 per cent, but since no one now questions their convertibility into gold on demand they are for all practical purposes equivalent to gold. Whenever a doubt arises (as it has arisen at times in the past), then of course the difference between such instruments and standard money is revealed. But with a time-tried system all doubts of convertibility ultimately disappear. The same thing is true of checks, generally speaking. For the system as a whole, in all ordinary times, there is no real doubt of convertibility, and hence redemption of any large amount at once is never demanded. But in any event "credit," as used

in connection with redeemable government paper or silver, is not regarded as a time obligation or as on all fours with time notes and drafts; the greenbacks and token coins are correctly regarded as actual money. Deposit currency differs from these only in being issued by private corporations under government supervision rather than by the government itself, and in being transferable only by indorsement.¹

Greater clarity may perhaps be added to this point of view by a brief consideration of Willis' statement that the single dominant idea of a bank is that of "guaranteeing the limited or individual credit of each individual by accepting it and substituting in lieu thereof the bank's own credit." In the sort of operation that Willis describes² the bank does not in fact guarantee that X will pay his obligation to Y at maturity, nor does the bank agree to pay X's liability for him at the end of three months. The bank agrees to pay, and does pay, the obligation at once. Y receives a check—or a bank note, as the case may be. He may deposit this in a savings bank and draw interest on it as though it were a deposit of specie. He may buy a bond with it; he may take out some insurance; he may loan it to Z; he may buy a dress for the new baby; or he may use it in his routine business operations—none of which things he can do with X's promissory note. The common expression, "he paid by giving a promissory note," is misleading. He does not pay when he gives a note. He merely gives evidence of a postponed obligation, and it is thus entered in the accounts of business men. But when a check is given it is entered in the books as a paid obligation.

In connection with the bank-acceptance business, however, the bank does, in fact, do precisely what Willis describes as its single dominant function in general. It says to Y: "We know X, we have investigated his business, and you may look to us for pay-

¹ It is interesting to observe in this connection that bank notes, arising in much the same way as deposit currency, are usually treated in the standard texts as actual money along with the various forms of government currency, and that it is only the deposit currency that appears to be *credit*. It is apparent without analysis, however, that bank notes are no more genuinely money than is deposit currency; they merely happen to be differently secured and to pass without indorsement. Cashiers' checks and bank drafts differ from notes even less, practically the only difference lying in the matter of indorsement for the purpose of transfer.

² Willis, *American Banking*, pp. 3-4.

ment three months from date; we will accept a draft for \$1,000 and pay that amount at date of maturity." This accepted *time* draft is a credit instrument—it involves futurity—and it is a better-known and more widely acceptable instrument than X's note or acceptance would be. The bank has here "guaranteed limited credit"; it has "generalized credit." But no one can logically contend that the bank acceptance is the same thing as a bank loan, and no one can logically argue that an engagement to pay in three months is equivalent to an engagement to pay *now*.

The writers of the foregoing quotations of course realize that when an exchange of personal credit for bank credit is made the recipient of the bank credit receives a demand instrument in lieu of the time-credit instrument which he surrendered to the bank. The foregoing discussion might therefore be regarded as mere quibbling over the use of terms, were it not for the fact that these writers have not "followed through" and shown the real significance of commercial banking in relation to business operations. I have never found a student who, after reading the foregoing quotations with their accompanying contexts, obtained any notion that when commercial banks swap less-known for better-known credit and guarantee the credit of individuals they are substituting for time-credit instruments demand instruments that are for all practical purposes the equivalent of cash. Students see that through deposits banks create media of exchange; but they do not see that in the process of substituting better-known for less-known credit or by guaranteeing personal credit the commercial banks swell the volume of loanable funds, creating thereby purchasing power that is available for the manifold uses of business.¹

V. RECAPITULATION

At the conclusion of this over-long analysis of the nature of commercial banking one may well query whether it contains after all anything essentially new. Is it not merely a re-statement in somewhat different terms of the familiar doctrine that commercial

¹ It should be added here that Davenport's statement of the essential characteristic of the commercial bank explicitly emphasizes the creation of loanable funds, and that Taussig also hints at the same phenomenon. Except as to details, relative emphasis, and form of expression my analysis here does not differ essentially from that made by Davenport, though I shall, however, make a somewhat different application of this theory in ensuing papers.

banks deal in credit? Is not the expansion of loans the same thing as creating media of exchange, and is not the chief significance of this increased currency to be found in its relation to the price level? These questions can be answered only in the light of subsequent analysis of the relation of bank loans to the process of capital formation. We have thus far merely been laying foundations.

A recapitulation of the analysis that has been made in this paper will, however, serve to clarify the issues: (1) It has been suggested (though not as yet demonstrated) that the study of commercial banking has been approached from so restricted a point of view that its relation to industrial society has not been clearly appreciated. (2) Much of the current analysis of the work of commercial banking is mere description of banking operations. (3) Where attempts have been made to discuss commercial banking from a broader viewpoint—in relation to the larger questions of economics—the discussion generally runs in terms of valuation analysis, media of exchange, and the price level. There is little suggestion that commercial banking is directly related to the productive, as distinguished from the marketing, process. (4) Some of the standard treatises point out that commercial banks act as intermediaries between borrowers and lenders, thus directing capital into the most productive channels. There is no suggestion, however, that commercial banking is in any way related to capital *formation*. (5) The outstanding feature of commercial banking, viewed in its more immediate aspects, is the creation of loanable funds. (6) The general assumption that the work of a commercial bank is to swap better-known for less-known credit is misleading; the commercial bank rather creates in exchange for promises to pay in the future promises to pay immediately, which promises are the equivalent of cash.

The next paper of this series will be devoted to a discussion of the fourth view of commercial banking found in the excerpts given in Section II, above, namely, that commercial banks are chiefly related to commercial operations; that their connection with industry is largely, if not wholly, adventitious.

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[*To be continued*]